

Remarks on the type material of *Linaria cavanillesii* Chav. (Antirrhineae, Veronicaceae)

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KEY WORDS

Linaria,
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southeastern Spain,
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ABSTRACT

Some aspects concerning the type material of *Linaria cavanillesii* Chav. (Antirrhineae, Veronicaceae), which are conserved in different herbaria, are discussed. This name had previously been lectotypified on Tournefort's collections that are kept at the herbarium P, though they had been regarded erroneously as syntypes. Evidence is shown on the existence of a duplicate of the lectotype

(isolectotype), which is conserved among the Salvador herbarium at BC (Institut Botànic de Barcelona), as well as of syntypes deposited in MA on which the illustration by Cavanilles cited in the protologue was drawn. Historical data are reported on collection sites and dates for all cited syntypes of this name.

RÉSUMÉ

Détails sur le matériel type de Linaria cavanillesii Chav. (Antirrhineae, Veronicaceae). Des aspects concernant le matériel type de *Linaria cavanillesii* Chav. (Antirrhineae, Veronicaceae) conservés dans des herbiers européens sont ici discutés. Ce nom avait été déjà lectotypifié sur des échantillons de Tournefort conservés dans l'herbier P, considérés à tort comme syntypes. La démonstration est faite de l'existence d'un duplicata du lectotype (isolectotype), conservé à l'herbier Salvador (déposé à BC, Institut Botànic de Barcelona), ainsi que de syntypes conservés dans l'herbier MA, lesquels ont été utilisés par Cavanilles pour l'illustration citée dans le protologue. Des données historiques sont rapportées concernant les dates et les sites de collecte de tous les syntypes de ce nom.

MOTS CLÉS

Linaria,
Antirrhineae,
Veronicaceae,
Cavanilles,
sud-est de l'Espagne,
lectotypification.

INTRODUCTION

Linaria cavanillesii Chav. (Chavannes 1833) is a species of Sect. *Diffusae* (Benth.) Wettst. (Sutton 1988), endemic to southeastern Iberian Peninsula (provinces of Albacete, Alicante, Almería, Murcia and Valencia). It typically occurs in limestone cliff-nesting environments, commonly on more or less shady sites (Sáez & Bernal 2009).

The protologue of this species includes a direct reference to two elements: "*Linaria Hispanica trifolia latifolia villosa* Tourn.! inst. p. 169" (cf. Tournefort 1719: 169), and "*Antirrhinum triphyllum* Cav.! ic, II, p. 61, tab. 179 (excl. syn. omn.)" (cf. Cavanilles 1793: 61). Chavannes (1833: 117) basically described his plant from Tournefort's specimen, which is preserved at the herbarium of the Muséum national d'Histoire naturelle, Paris, as part of the historical collection of Tournefort (P, *Tournefort* 942). Most probably he did never study the Cavanillesian collections, excepting the cited illustration, but he named this species honouring the Valencian botanist. The type locality, "Hab. in Hispaniâ; in umbrosis montium de la Cova alta, prope Albaydam et Palomera, in Ayorae ditione", was mostly transcribed from Cavanilles (1793), since Tourne-

fort's specimen bears no collection data, though it comes from the Iberian Peninsula according to the original polynomial.

Viano (1978: 251) cited Tournefort's specimen as "syntypi" of this species, an indication that was followed by Sutton (1988: 352) and Mateu *et al.* (1999: 50). However, evidence is presented here that allows a new interpretation of all concerned materials, on the basis of historical data related to botanical travels of Tournefort and Cavanilles.

HISTORICAL REMARKS

The exsiccata of J. P. de Tournefort (Fig. 1) came from the botanical exploration undertaken in Spain in 1687, during which he visited among other places the coast of Valencia up to Denia and Alicante. On this trip he was accompanied by Jaume Salvador i Pedrol (cf. Bolòs 1946: 1, 2; Ibáñez 2006: 33, 58), and together they visited Sierra de Mariola. Materials of *L. cavanillesii* were collected there, some of them currently preserved in P (*Tournefort* 942), and a duplicate at the Salvador herbarium in Barcelona (BC, *Salvador* 589; Fig. 2): "*Linaria Hispanica triphylla et latifolia*



FIG. 1. — Lectotype of *Linaria cavanillesii* Chav. (P00651965, *Tournefort 942*). Transcript of the original label: *Linaria Hispanica trifolia*/
Latifolia Villosa Lutea. © Herbarium P, reproduced with permission.

villosa / *Inst. Rei. herb.* 169 / *In monte la Sierra de Mariola et Moncabrer in regno valentino.*” (Serra Mariola [Alicante, España]; Ibáñez 2006). However, the lack of precise locality in the Tournefort material could also imply that it may also have been herborized in two different localities: either in Denia “*dans les roches de Montgo proche Denia*” sub *Linaria trifolia valentina perennis villosa flore luteo*, or in Mariola “*in monte quem vocant La Mariola in rupibus quae incumbunt templo quod vocant la mare de déu de Agres*” sub *Linaria Valentina trifolia hirsute perennis* (see Salvador 1705: 27, 28; Henriques 1898: 125–127). However, in this case this is not relevant for typification purposes, as both possible localities of Tournefort’s specimen (Denia or the Mariola mountains, both in the province of Alicante, Spain), are congruent with the general indication in the protologue of Chavannes.

Regarding the material collected by Antonio Joseph Cavanilles (MA 109277 [Fig. 3] & MA 333291 [Fig. 4]), Viano (1978: 251) and Sutton (1988: 352) indicated that it should have been likely deposited in MA, but none of them saw any Cavanillesian specimen from that herbarium. They suggested that the description of *L. cavanillesii* by Chavannes (1833: 117) was based on both the herbarium material of Tournefort (P, *Tournefort* 942) and the icon provided by Cavanilles (1793: tab. 179), but perhaps not on the material collected by the latter (Sutton 1988: 352). It is interesting to remark here that Cavanilles never intended to describe a new species under the name *Antirrhinum triphyllum*, as shown in some studies (cf. Viano 1978: 251; Sutton 1988: 352; Mateu *et al.* 1999: 50; Mateo & Laguna 2004: 26), but aimed to broaden the scope of the description of *A. triphyllum* L., sp. pl.: 613 (1753) (lectotype LINN 767.9), since Cavanilles himself (1793: 61) explicitly attributed the authorship of the plants he collected to the Swedish author: “ANTIRRHINUM TRIPHYLLUM *Linnaei*”.

In particular, the locality shown on the herbarium label of sheet MA 109277 as “Cova Alta de Santa Anna” is known today as Cova Alta de Albaida (Albaida, Valencia). It is confined to the

mountains of the Sierra de Mariola, but specifically in Sierra de la Cova Alta, which is located between Sierra del Benicadell, a mountain ridge north of it, and Sierra Mariola in a narrow sense, to the south. Cavanilles visited this spot during his second trip along the ancient Valencian Kingdom to prepare his “*Observaciones...*” (Cavanilles 1795–1797) in the spring of 1792, between April 9th and June 2nd. On that same trip he passed through Xabia-Denia on May 22nd and May 23rd, 1792, but as indicated by González-Bueno (1995: 149) he skirted the mountain of Montgó (Denia, Alicante) without going up to see any of its classical botanical sites, such as the Cova de l’Aigua, where this plant grows abundantly. The Valencian abbot visited “Palomera” (another locality in the protologue) on June 13th and August 13th, dates unsuitable for the flowering of *L. cavanillesii*, which perhaps explains why no specimens of this plant collected by Cavanilles exist in MA. Subsequently, Cavanilles returned to the mountains of Albaida and Mariola in his last expedition through the Valencian territory. He left on August 5th and returned on September 9th, in 1793, which again was too late to find flowering plants of this species. Thus, according to the results of Mateu (1995), the MA 109277 specimen was dated exactly on the afternoon of April 17th, in 1792 (cf. González-Bueno 1995: 145, 146).

TYPE MATERIAL

Linaria cavanillesii Chav.

Monographie des Antirrhinées: 117 (1833) (*Antirrhinum triphyllum* sensu Cav., icon 2: 61, tab. 179 [1793], non L., sp. pl.: 613 [1753])

TYPUS. — **Spain**. Hab. in Hispaniâ; in umbrosis montium de la Cova alta, prope Albaydam et Palomera, in Ayorae ditione (Cav.), (lecto- [corrected here], *Tournefort* 942 [P00651965]!, Fig. 1; isolecto-, *Salvador* 589 [BC]!, Fig. 2).

SYNTYPI. — MA 109277! (Fig. 3); MA 333291! (Fig. 4); [icon] *Antirrhinum triphyllum* sensu Cavanilles, icon 2: tab. 179 (1793).

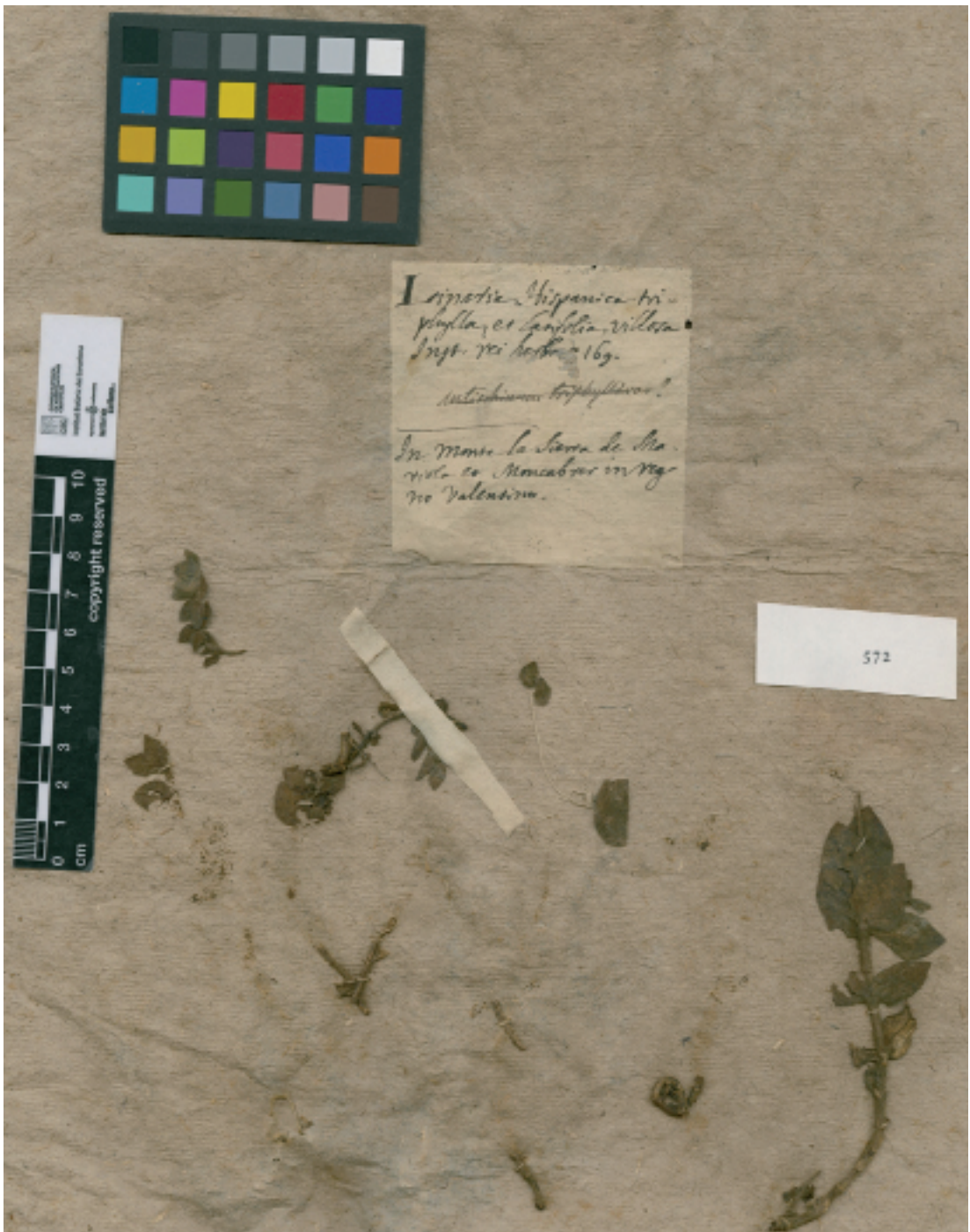


FIG. 2. — Duplicate of the lectotype (isolectotype) of *Linaria cavanillesii* Chav. (BC; Salvador 589). Transcript of the original label: *Linaria Hispanica triphylla et latifolia villosa* / Inst. rei. herb. 169 / *Antirrhinum triphyllum*? // In monte la Sierra de Mariola et Moncabrer in regno valentino. © Herbarium BC, reproduced with permission.



FIG. 3. — Syntype of *Linaria cavanillesii* Chav. (MA 109277). Transcript of the original label: *Antirrhinum triphyllum*/Icon. Tab. 179/Cova Alta de S^{ta} Ana/Abril. © Herbarium MA, reproduced with permission.



FIG. 4. — Syntype of *Linaria cavanillesii* Chav. (MA 333291). Transcript of the original label: *Antirrhinum triphyllum*/Cav. Icon. est sp. n./Cav. herb. © Herbarium MA, reproduced with permission.

OBSERVATIONS

Viano (1978: 251) referred the sheet P-*Tournefort 942* as “syntypi” of *L. cavanillesii*, probably due to the fact that it included two fragments, which otherwise were in fairly good condition and lacked explicit collection data. Probably, she had not in mind to lectotypify that name, because did not explicitly select any of those fragments as the true lectotype, which would have matched the version of the International Code of Botanical Nomenclature (ICBN) ruling by that time (the *Leningrad Code*, adopted in 1975). However, we do not believe that lectotypification is now necessary after application of the current ICN (Melbourne Code; McNeill *et al.* 2012). Both fragments in P-*Tournefort 942* correspond to a single gathering, and therefore that sheet is a “specimen” as defined in art. 8.2. Furthermore, Viano’s designation of a single element (Tournefort’s specimen) as the type, under the indication “syntypi”, is here treated as an “error” to be corrected as “lectotype”, according to art. 9.9 of the *Vienna Code*. Therefore, this should be regarded as a valid type designation (see art. 7.10), specifically a lectotype (art. 9.2). The remaining elements of the protologue are to be treated as indicated above.

Although the specimen MA 109277 perhaps would have been the best choice for a lectotype of *Linaria cavanillesii*, as it includes the fragments that better fit the Cavanillesian illustration cited in Chavannes protologue, Viano’s choice of lectotype on Tournefort’s gathering does not contradict the protologue and therefore it must be followed.

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